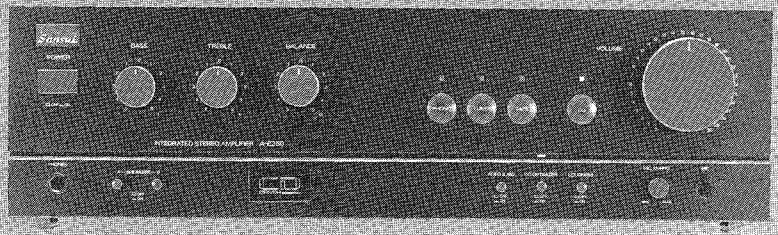
SERVICE MANUAL

INTEGRATED STEREO AMPLIFIER

SANSUI A-E350



CAUTION

1. Parts identified by the ⚠ symbol on the schematic diagram and the parts list are critical for safety. Use only replacement parts that have critical characteristics recommended by the manufacturer.
2. Make leakage-current or resistance measurements to determine that exposed parts are acceptably insulated from the supply circuit before returning the appliance to the customer.

Sansui

SANSUI ELECTRIC CO., LTD.

•SPECIFICATIONS

Power output
Min. RMS, both channels driven, from 20 to 20,000 Hz, with no more than 0.08%% total harmonic distortion.
25 watts per channel into 8 ohms.
Load impedance..... 8 to 16 ohms
Total harmonic distortion
..... less than 0.1% at or below rated min. RMS power output
Frequency response (at 1 watt)
Overall (from CD, TUNER, TAPE PLAY)
..... 10 to 60,000 Hz, +0 dB −3.0 dB
Input sensitivity and impedance (at 1 kHz)
PHONO..... 3.2 mV/47 kohms
(Max. input capability; 120 mV at 1 kHz, less than 0.1% total harmonic distortion)
CD..... 270 mV/47 kohms
TUNER, TAPE PLAY.... 200 mV/47 kohms
MIC ..... 0.6 mV/10 kohms
Output level (1 kHz)
TAPE REC..... 160 mV into 47 kilohms
Signal to noise ratio (short-circuit, A-network)
PHONO..... 72 dB
CD..... 90 dB
TUNER, TAPE PLAY.... 90 dB
Controls
BASS..... ±8 dB at 50 Hz
TREBLE..... ±8 dB at 10 kHz
LOUDNESS..... +8 dB at 50 Hz
+6 dB at 10 kHz
(VOLUME: −30 dB position)
CD OPTIMIZER..... +2.5 dB at 100 Hz
Power requirements
Power voltage..... 120/220/240V (50/60 Hz)
For U.S.A & Canada
..... 120V (60 Hz)
Power consumption.... 120 watts 150 VA Rated
150 watts Maximum
Dimensions..... 380 mm (15″) W
111 mm (4-3/8″) H
298 mm (11-3/4″) D
Weight..... 4.1 kg (9.0 lbs) net
4.9 kg (10.8 lbs) packed

* Design and specifications subject to changes without notice for improvements.
* Due to local laws and regulations, this unit sold in some areas are not equipped with variable voltage selectors.

CAUTION

1. The symbols, UL, CSA, SA, BS, UK, EU, AS, SEV and XX (EXPORT) on the parts list and the schematic diagram mean followings respectively.

   UL..... Manufactured for U.S.A market.
   (Underwriters Laboratories approved model.)
   CSA..... Manufactured for Canadian market.
   SA..... Manufactured for South African market.
   BS, UK ..... Manufactured for United Kingdom market.
   EU ..... Manufactured for European market.
   AS..... Manufactured for Australian market.
   SEV ..... Manufactured for Swiss market.
   XX (EXPORT) ..... Standard Version.
   NON MARK ..... Common Parts.

2. Some printed circuit boards are not supplied as the assembled. To separate these in this service manual, the stock No's are not indicated at the ends of the board names. However, the individual parts on the circuit boards are provided by orders.

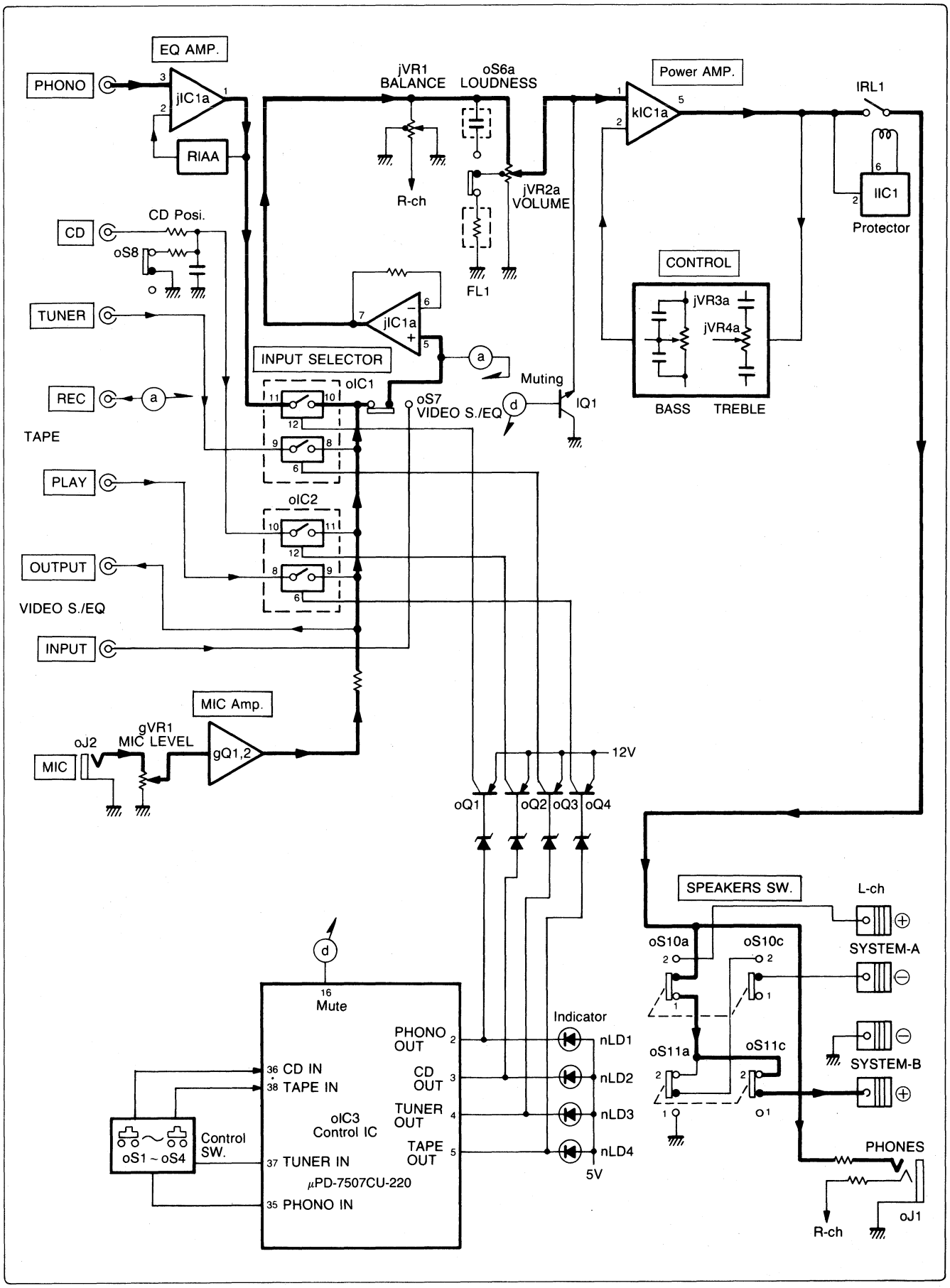
3. Since some of capacitors and resistors are omitted from parts lists in this service manual, refer to the Common Parts List for capacitors & resistors, which was issued on February 1983.

4. Abbreviations in this service manual are as follows.

•Abbreviations List

C.R.	: Carbon Resistor	E.B.L.	: Low Leak Bi-Polar Electrolytic Capacitor
S.R.	: Solid Resistor		
Ce.R.	: Cement Resistor	Ta.C.	: Tantalum Capacitor
M.R.	: Metal Film Resistor	F.C.	: Film Capacitor
F.R.	: Fusing Resistor	M.P.	: Metalized Paper Capacitor
N.I.R.	: Non-Inflammable Resistor	P.C.	: Polystyrene Capacitor
A.R.	: Array Resistor	G.C.	: Gimmic Capacitor
C.C.	: Ceramic Capacitor	A.C.	: Array Capacitor
C.T.	: Ceramic Capacitor, Temoerature Compensation	V.R.	: Variable Resistor
		S.V.R.	: Semi Variable Resistor
E.C.	: Electrolytic Capacitor	SW.	: Switch
E.L.	: Low Leak Electrolytic Capacitor	Chip R.	: Chip Resistor
		Chip C.	: Chip Capacitor
E.B.	: Bi-Polar Electrolytic Capacitor		

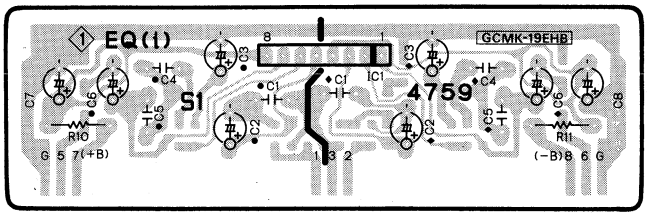
1. BLOCK DIAGRAM



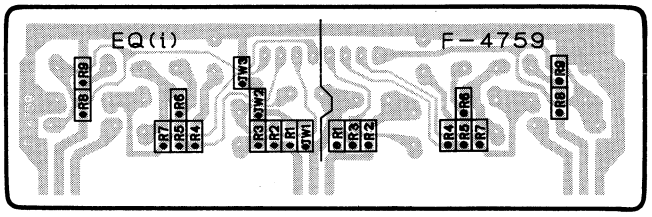
2. PARTS LOCATION & PARTS LIST

2-1. F-4759 EQ. Amp. Board (Stock No. 00976701)

Component Side



Pattern Side <Chip Parts>

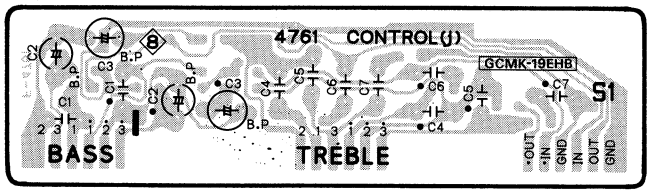


Parts List

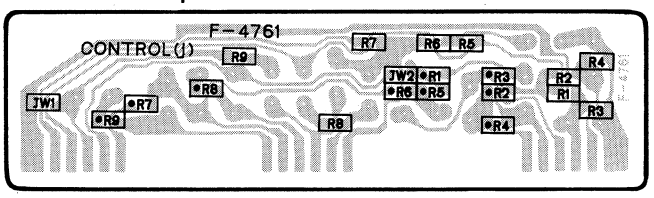
Parts No.	Stock No.	Description
•IC		
iIC1	46078900	M5218L
iJW1	46741100	Cross Conductor (Chip)
iJW2	46741100	Cross Conductor (Chip)
iJW3	46741100	Cross Conductor (Chip)
iR1	46752400	100kΩ 1/8W Chip R.
iR2	46746800	470Ω 1/8W Chip R.
iR3	46752400	100kΩ 1/8W Chip R.
iR4	46746900	510Ω 1/8W Chip R.
iR5	46746900	510Ω 1/8W Chip R.
iR6	46750800	22kΩ 1/8W Chip R.
iR7	46753500	300kΩ 1/8W Chip R.
iR8	46746800	470Ω 1/8W Chip R.
iR9	46752400	100kΩ 1/8W Chip R.
⚠iR10	46229000	100Ω 1/2W N.I.R.
⚠iR11	46229000	100Ω 1/2W N.I.R.
iR12	46752400	100kΩ 1/8W Chip R.
iC2	46283700	0.047μF 50V F.C.
iC4	46282400	3300pF 50V F.C.
iC5	46283000	0.012μF 50V F.C.

2-2. F-4761 Tone Control Board

Component Side



Pattern Side <Chip Parts>

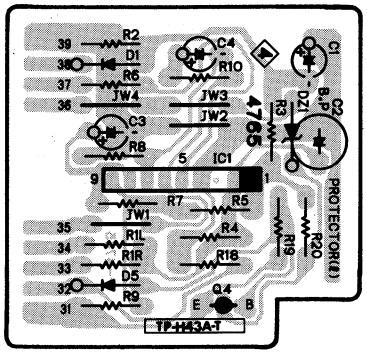


Parts List

Parts No.	Stock No.	Description
jJW1	46741100	Cross Conductor (Chip)
jJW2	46741100	Cross Conductor (Chip)
jR1	46750200	12kΩ 1/8W Chip R.
jR2	46748200	1.8kΩ 1/8W Chip R.
jR3	46753400	270kΩ 1/8W Chip R.
jR4	46751000	27kΩ 1/8W Chip R.
jR5	46751700	51kΩ 1/8W Chip R.
jR6	46748400	2.2kΩ 1/8W Chip R.
jR7	46749400	5.6kΩ 1/8W Chip R.
jR8	46749600	6.8kΩ 1/8W Chip R.
jR9	46747200	680Ω 1/8W Chip R.
jC1	46283600	0.039μF 50V F.C.
jC2	46937000	0.22μF 50V E.B.
jC3	48101500	100μF 6.3V E.B.
jC4	46281800	1000pF 50V F.C.
jC5	46282800	8200pF 50V F.C.
jC6	46282700	6800pF 50V F.C.

2-3. F-4765 Protector Board (Stock No. 00876901)

Component Side

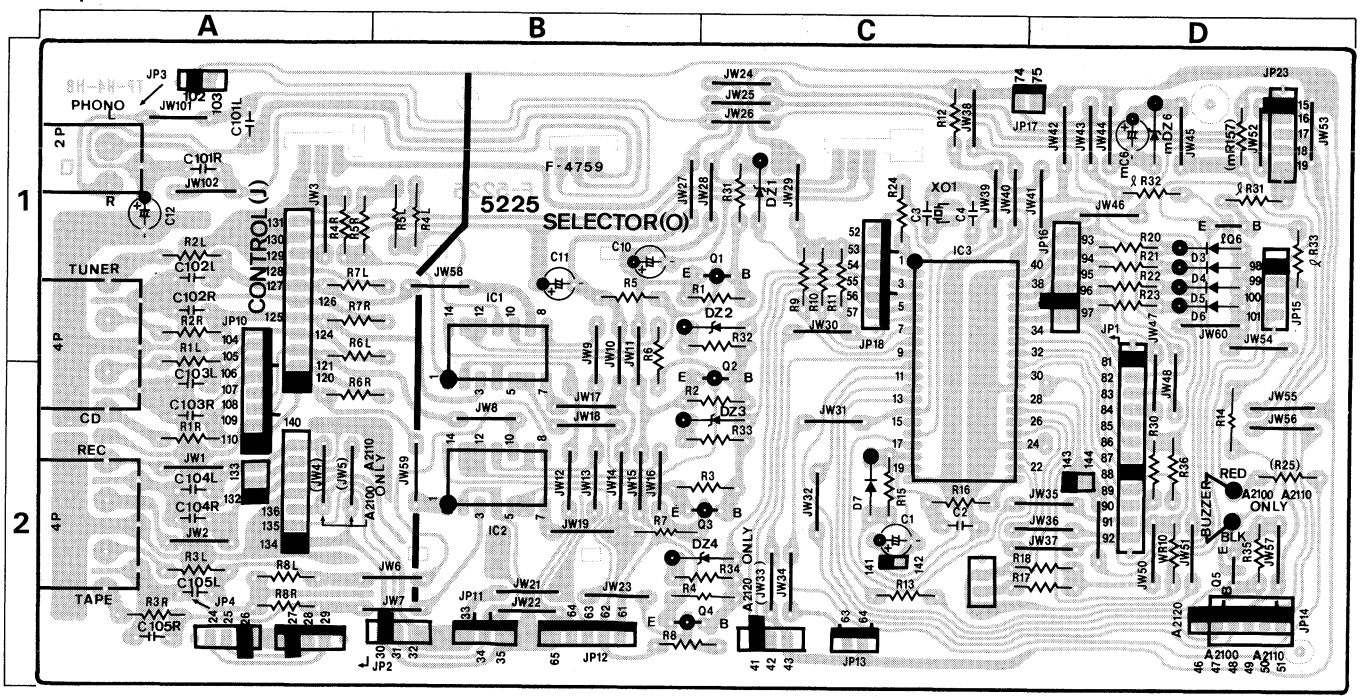


Parts List

Parts No.	Stock No.	Description
•IC		
IIC1	46207600	TA7317P
•Diode		
ID1	03117600	1S2473T77
	or 46086000	1S1588TP-3
IC2	48101500	100μF 6.3V E.B.

2-4. F-5225 Control IC Board (Stock No. 00982301)

Component Side



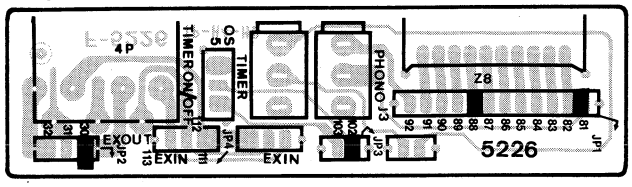
Parts List

Parts No.	Stock No.	Description
jC200	46282500	3900pF 50V F.C.
•Zener Diode		
mDZ6	46111100	05Z5.1-X
	or 46824300	RD4.7E-B1
•Transistor		
oQ1	46188601	2SA1015
	or 46367001	2SA1115
	or 46367201	2SA1048
oQ2	46188601	2SA1015
	or 46367001	2SA1115
	or 46367201	2SA1048
oQ3	46188601	2SA1015
	or 46367001	2SA1115
	or 46367201	2SA1048
oQ4	46188601	2SA1015
	or 46367001	2SA1115
	or 46367201	2SA1048
•IC		
oIC1	46255000	LC4066BH
	or 48056800	LC4966
oIC2	46255000	LC4066BH
	or 48056800	LC4966
oIC3	48316710	μPD7507CU-220

Parts No.	Stock No.	Description
oXO1	48339400	Quartz Crystal KF38G
•Diode		
oD3	03117600	1S2473T77
	or 46086000	1S1588TP-3
oD4	03117600	1S2473T77
	or 46086000	1S1588TP-3
oD5	03117600	1S2473T77
	or 46086000	1S1588TP-3
oD6	03117600	1S2473T77
	or 46086000	1S1588TP-3
oD7	03117600	1S2473T77
	or 46086000	1S1588TP-3
oD10	03117600	1S2473T77
	or 46086000	1S1588TP-3
•Zener Diode		
oDZ1	46112700	05Z8.2-Y
oDZ2	46112700	05Z8.2-Y
oDZ3	46112700	05Z8.2-Y
oDZ4	46112700	05Z8.2-Y
oZ4	46363700	2P Terminal, PHONO
oZ5	46371500	4P Terminal, TUNER•CD
oZ6	46371500	4P Terminal, TAPE

2-5. F-5226 System Control Terminal Board

Component Side

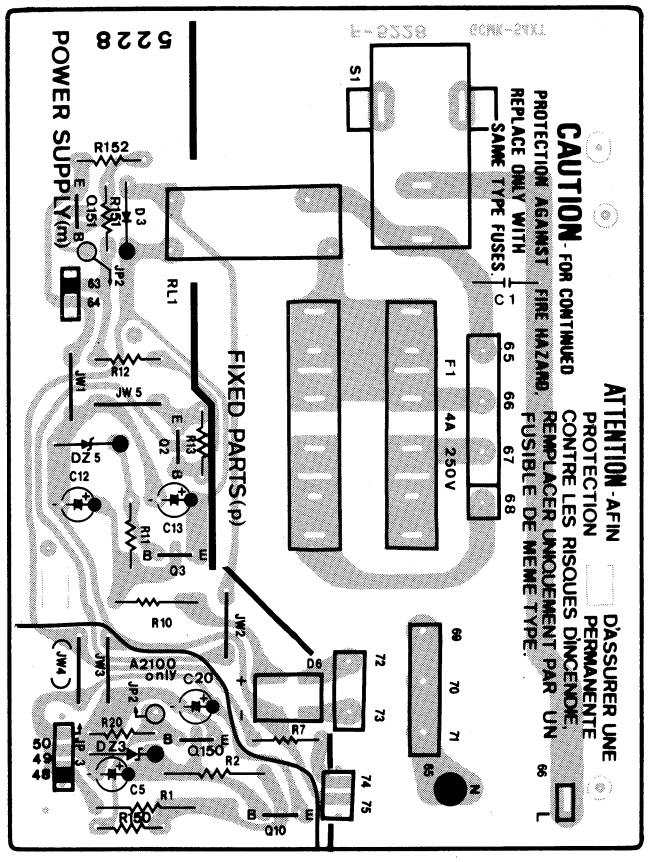


Parts List

Parts No.	Stock No.	Description
oZ7	46371500	4P Terminal, VIDEO SOUND

2-6. F-5228 Power SW. Board (Stock No. 00982501 = XX/Stock No. 00982502 = UL/Stock No. 00982505 = EU,BS/Stock No. 00982509 = SEV)

Component Side

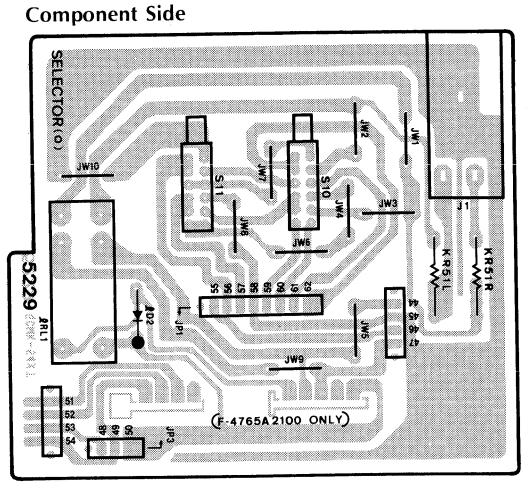


Parts List

Parts No.	Stock No.	Description
•Transistor		
mQ10	48369801	2SC1826
•Diode		
mD3	48123600	11E2
⚠mD6	46273600	DBB10B
•Zener Diode		
mDZ3	46116000	05Z24-Y
	or 46116100	05Z24-Z
⚠mR1	46625000	390Ω 2W N.I.R.
⚠pC1	46425800	0.01μF 400V C.C.
⚠	or 46943200	0.01μF 400V C.C.
⚠	or 48186700	0.01μF 400V C.C.
⚠pF1	48266700	AC Fuse 1.5A 250V (XX)
⚠	48266900	AC Fuse 2.5A 250V (UL)
⚠	07184800	AC Fuse 1.25A 250V (EU•UK•SEV)
⚠pF2	48266700	AC Fuse 1.5A 250V (XX)
⚠	07184800	AC Fuse 1.25A 250V (SEV)
⚠pS1	46364300	Push SW., POWER

2-7. F-5229 SPEAKERS SW. Board

Component Side

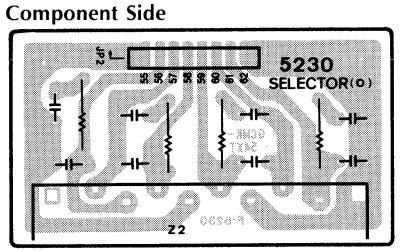


Parts List

Parts No.	Stock No.	Description
⚠kR51	46229400	220Ω 1/2W N.I.R.
•Diode		
ID2	48123600	11E2
IRL1	48183100	Relay
	or 48183200	Relay
oS10	46941800	Push SW., SPEAKERS-A
oS11	46941800	Push SW., SPEAKERS-B
oJ1	46265700	Jack, PHONES

2-8. F-5230 SPEAKERS Terminal Board

Component Side

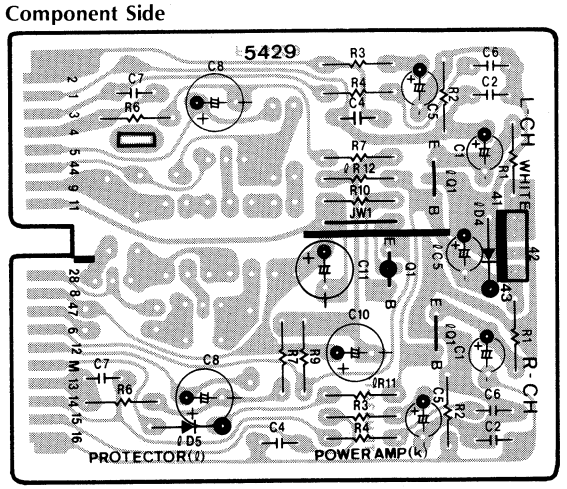


Parts List

Parts No.	Stock No.	Description
oZ2	46947500	8P Terminal, SPEAKERS

2-9. F-5429 Protector Board (Stock No. 00983101)

Component Side

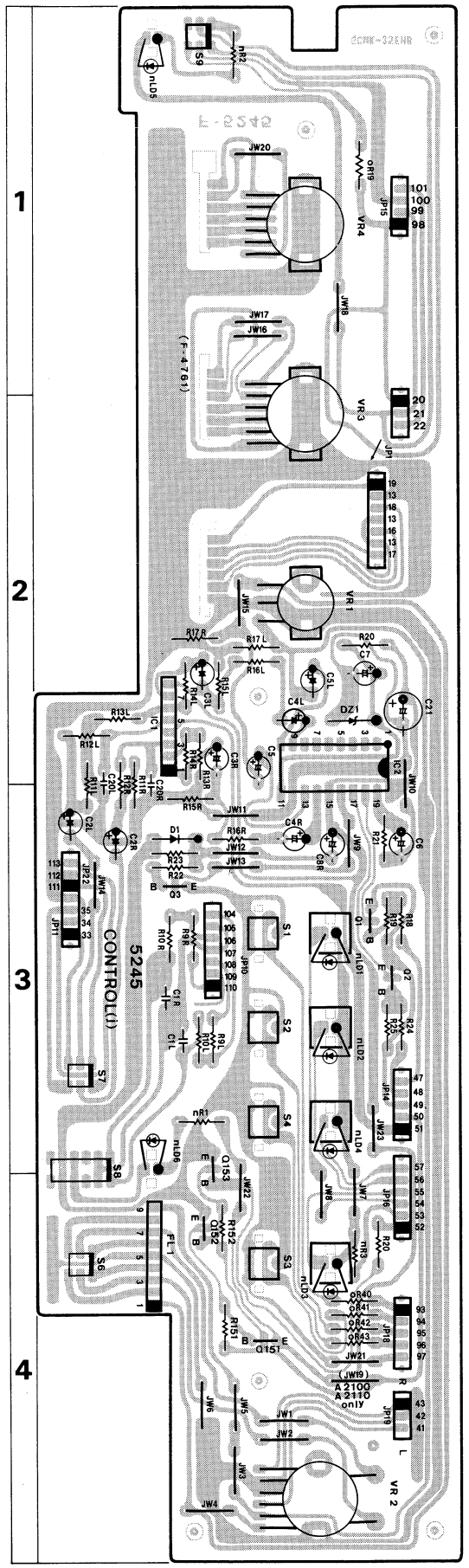


Parts List

Parts No.	Stock No.	Description
•Transistor		
kQ1	46581601	2SA992
	or 46614001	2SA1283
	or 46947301	2SA1049
⚠kR4	08907900	1.8kΩ 1/4W C.R.
IQ1	46367101	2SC2603
	or 46367301	2SC2458
•Diode		
ID4	03117600	1S2473T77
	or 46086000	1S1588TP-3
ID5	03117600	1S2473T77
	or 46086000	1S1588TP-3

2-10. F-5245 Selector SW. & Control Amp. Board (Stock No. 00982901)

Component Side

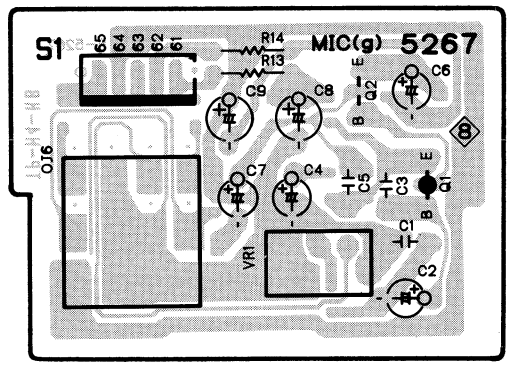


Parts List

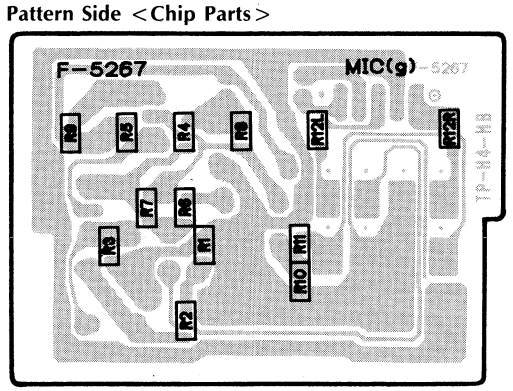
Parts No.	Stock No.	Description
•IC		
jIC1	46078900	M5218L
jC1	46282900	0.01μF 50V F.C.
jFL1	48172000	CR Module
jVR1	48318500	250kΩ V.R., BALANCE
jVR2	48349400	150kΩ (B) V.R., VOLUME
jVR3	48318600	50kΩ (C) V.R., BASS
jVR4	48318600	50kΩ (C) V.R., TREBLE
•LED		
nLD1	46176900	TLS-123
nLD2	46176900	TLS-123
nLD3	46176900	TLS-123
nLD4	46176900	TLS-123
nLD6	03193700	SEL1110S
oS1	48306900	Push SW., PHONO
oS2	48306900	Push SW., TUNER
oS3	48306900	Push SW., CD
oS4	48306900	Push SW., TAPE
oS6	48313700	Push SW., LOUDNESS
oS7	48313700	Push SW., VIDEO/EQ
oS8	48319100	Push SW., CD POSITION

2-11. F-5267 Mic Amp. Board (Stock No. 00931601)

Component Side



Pattern Side <Chip Parts>

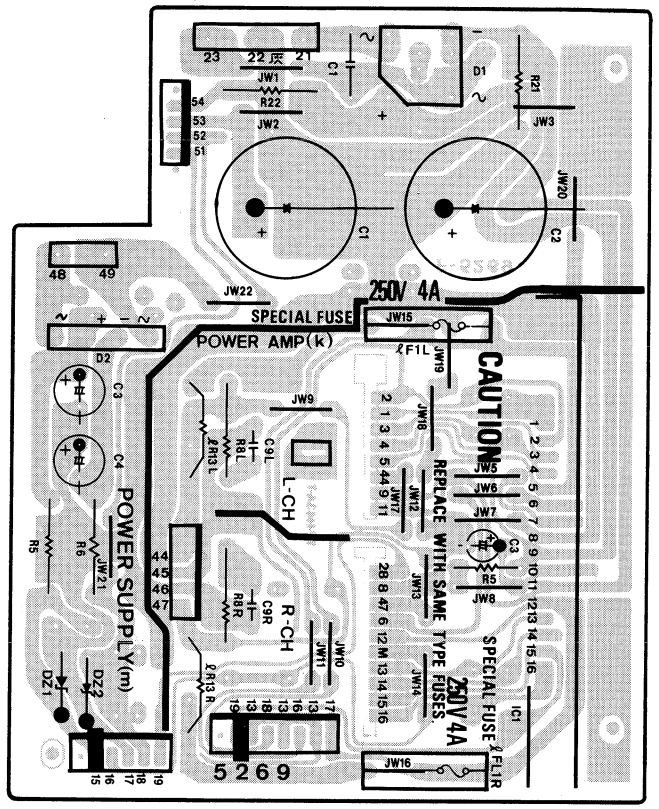


Parts List

Parts No.	Stock No.	Description
•Transistor		
gQ1	46581601	2SA992
	or 46581601	2SA992
gQ2	46188701	2SC1815
	or 46367101	2SC2603
	or 46577801	2SC2320L
gR1	46751600	47kΩ 1/8W Chip R.
gR2	46746800	470Ω 1/8W Chip R.
gR3	46752600	120kΩ 1/8W Chip R.
gR4	46753000	180kΩ 1/8W Chip R.
gR5	46752000	68kΩ 1/8W Chip R.
gR6	46744600	56Ω 1/8W Chip R.
gR7	46751000	27kΩ 1/8W Chip R.
gR8	46749200	4.7kΩ 1/8W Chip R.
gR9	46747800	1.2kΩ 1/8W Chip R.
gR10	46752400	100kΩ 1/8W Chip R.
gR11	46746800	470Ω 1/8W Chip R.
gR12	46749800	8.2kΩ 1/8W Chip R.
⚠gR13	46229000	100Ω 1/2W N.I.R.
⚠gR14	46229000	100Ω 1/2W N.I.R.
gVR1	48318700	20kΩ V.R., MIC MIXING
oJ2	46365100	Jack, MIC

2-12. F-5269 Power Amp. & Power Supply Board

Component Side (Stock No. 00983001)

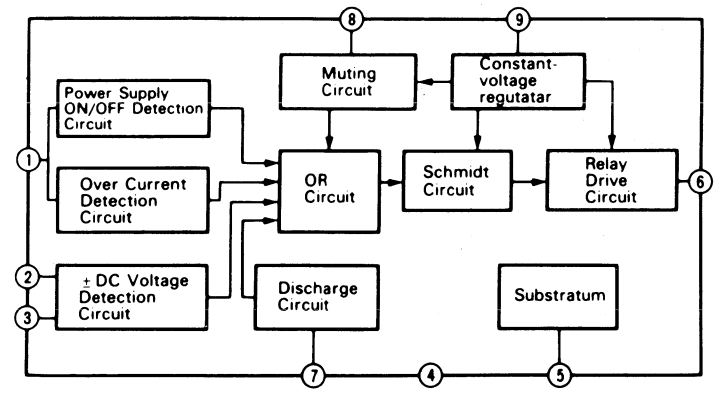


Parts List

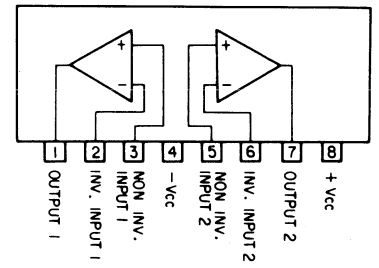
Parts No.	Stock No.	Description
•IC		
⚠kIC1	46367600	STK4843
kC9	46283700	0.047μF 50V F.C.
⚠kR5	46229000	100Ω 1/2W N.I.R.
⚠kR8	46227800	10Ω 1/2W N.I.R.
•Diode		
⚠mD1	03117000	RB152-LFF
⚠mD2	03117000	RB152-LFF
•Zener Diode		
mDZ1	46113800	05Z12-X
	or 46113900	05Z12-Y
mDZ2	46113800	05Z12-X
	or 46113900	05Z12-Y
mC1	46363300	3900μF 42V E.C.
mC2	46363300	3900μF 42V E.C.
⚠mC8	08680400	0.01μF 500V C.C.

3. INTERIOR BLOCK DIAGRAM OF IC

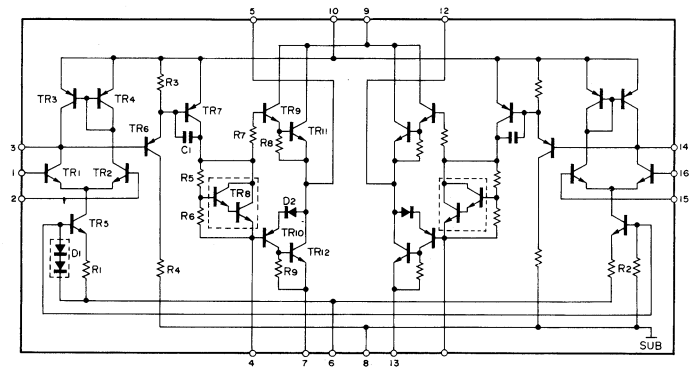
•TA7317P (Speaker Protector)



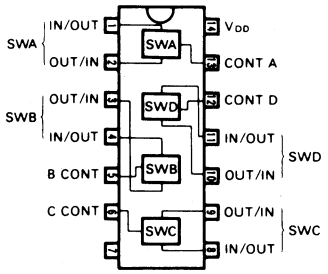
•M5218L (Pre Amp.)



•STK4843 (AF Power Amp. IC)

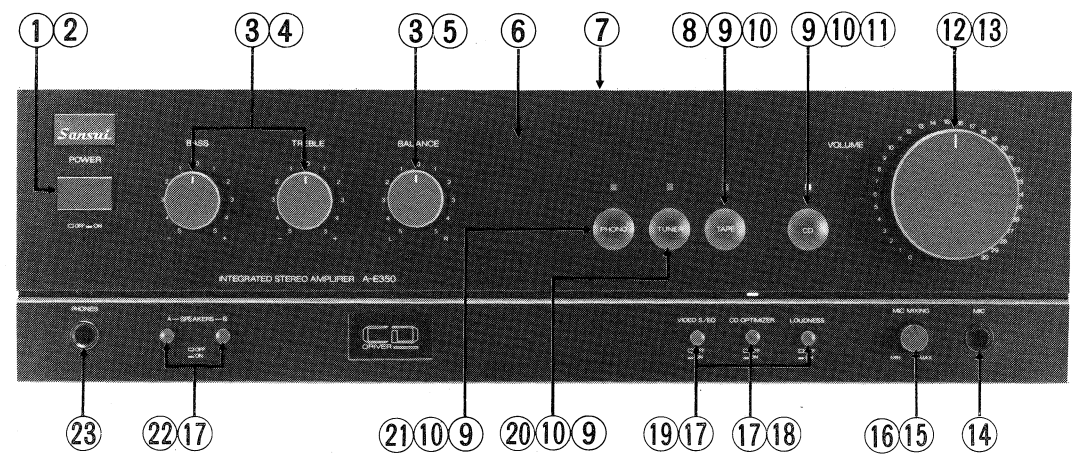


•LC4966/LC4066BH (Analog SW.)



4. OTHER PARTS

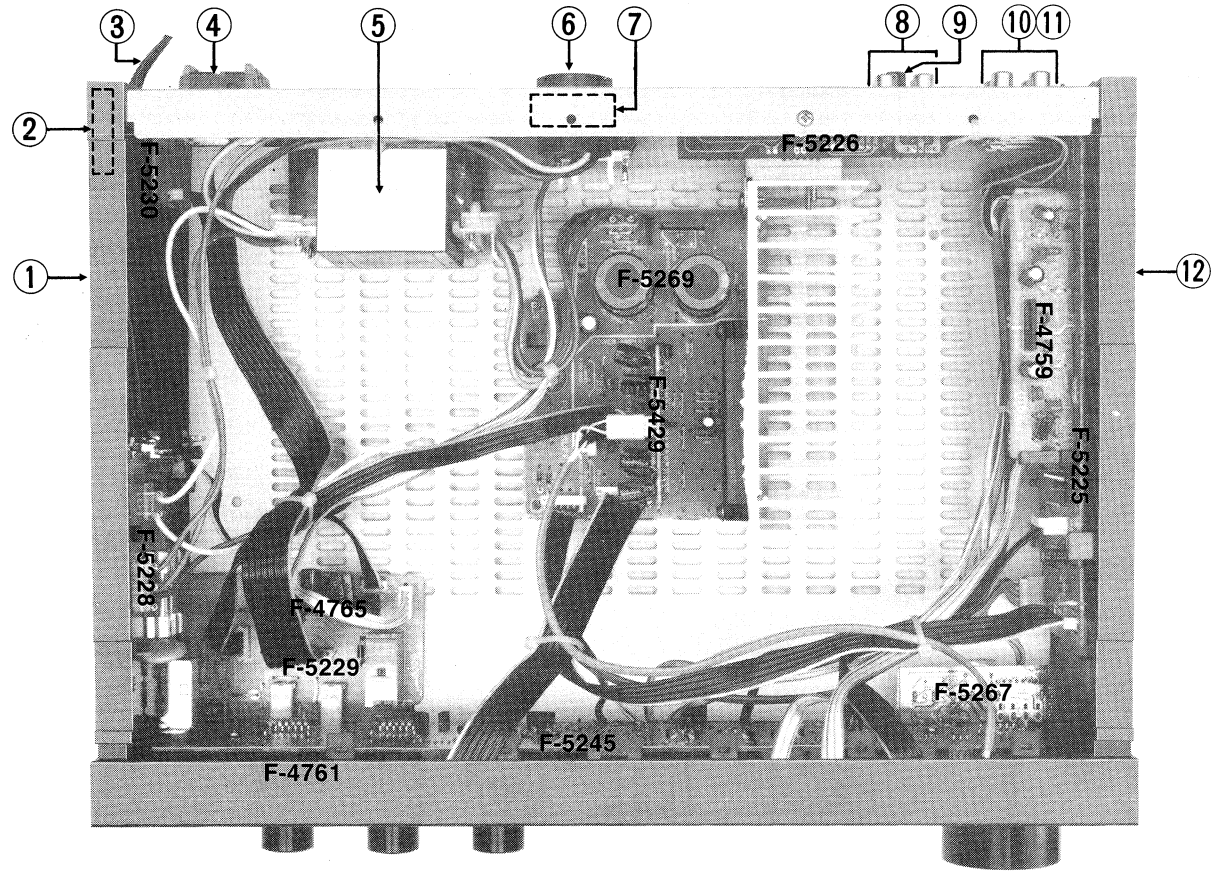
4-1. Front View



Parts List <Front View>

Parts No.	Stock No.	Description
1	27039800	Knob, POWER
⚠ 2	46364300	Push SW., POWER
3	27056200	Knob, BASS, TREBLE, BALANCE
4	48318600	50kΩ V.R., BASS, TREBLE
5	48318500	250kΩ V.R., BALANCE
6	27164300	Front Panel Ass'y
7	27049300	Bonnet
8	27052500	Knob, TAPE
9	48306900	Push SW., PHONO, TUNER, TAPE, CD
10	27051400	Knob, Adapter
11	27052600	Knob, CD
12	27056300	Knob, VOLUME
13	48349400	150kΩ V.R., VOLUME
14	46365100	Jack, MIC
15	27128000	Knob, MIC MIXING
16	48318700	20kΩ V.R., MIC MIXING
17	27038500	Knob, LOUDNESS, CD POSITION, SPEAKERS, VIDEO S/EQ
18	48319100	Push SW., CD POSITION
19	48313700	Push SW., LOUDNESS, VIDEO S/EQ
20	27052400	Knob, TUNER
21	27052300	Knob, PHONO
22	46941800	Push SW., SPEAKERS
23	46265700	Jack, PHONES

4-2. Top View



Parts List

Parts No.	Stock No.	Description
1	27055000	Side Panel Ass'y (Left)
2	47157300	AC Cord Cover
⚠ 3	38004700	Power Supply Cord (XX•UL)
⚠	38004500	Power Supply Cord (EU•SEV)
⚠	38004300	Power Supply Cord (UK)
4	46947500	8P Terminal, SPEAKERS
⚠ 5	15025609	Power Transformer with VOLTAGE SELECTOR Socket (XX-V)
⚠	15025602	Power Transformer (UL)
⚠	15025605	Power Transformer (EU•UK•SEV)
⚠ 6	48175200	Plug, voltage selector (XX)
⚠ 7	46365000	AC Outlet (XX•UL)
⚠	46161000	AC Outlet (EU•SEV)
⚠	46364800	AC Outlet (UK)
8	46371500	4P Terminal, VIDEO S./EQ
9	22301510	GND Terminal
10	46363700	2P Terminal, PHONO
11	46371500	4P Terminal, TUNER, CD, TAPE
12	27055100	Side Panel Ass'y (Right)

5. TERMINAL FUNCTIONS OF IC μPD7507CU-220

•μPD7507CU-220 (Control)

i/o	Port		Pin No.	i/o	Description	ACTIVE H	ACTIVE L
o	P_2	0	2	o	Selector Out PHONO		○
		1	3	o	Selector Out 1 CD		○
		2	4	o	Selector Out 2 TUNER		○
		3	5	o	Selector Out 3 TAPE		○
o	P_3	0	10	o	Volume Up 1 Serial Sig. for V.R.	○	
		1	11	o	Volume Down 1 Serial Sig. for V.R.	○	
		2	12	o	Volume Down Strobe Sig. for V.R.	○	
		3	13	o	Beep		
i/o	P_1	0	6	i	Rec Selector In PHONO		○
		1	7	i	Rec Selector In CD		○
		2	8	i	Rec Selector In TAPE		○
		3	9	i	Volume Mode	UP/DOWN	Serial
	P_7	0	14	o	Power On/Off	On	Off
		1	15	o	Busy Out		Busy
		2	16	o	Mute	On	Off
		3	17	o	Serial Send REQ	○	
	P_0	0/INTO	23	i	T/T In	STOP	PLAY
		1/$\overline{SCK}$	24	i	Shuf Off In	Timer Start	Shut Off
		2/$\overline{So}$	25	i	Timer On/Off In	Power Off	On
		3/$\overline{Si}$	26	i	Sleep In	Power Off	On
	P_6	0	27	i	Remote Cont. In		
		1	28	i	Remote Cont. On/Off In		
		2	29	i	R/T In	R	T
		3	30	i/o	Compu Selector In/ Set Select Out TUNER		○
	P_6	0	31	o	Parallel Sig. o/ Serial Sig.	○	
		1	32	o	Parallel Sig. Out 1	○	
		2	33	o	Parallel Sig. Out 2	○	
		3	34	o	Parallel Sig. Out 3	○	
	P_4	0	35	i/o	Compu Selector In/ Set Select Out PHONO		○
		1	36	i/o	Compu Selector In/ Set Selector Out CD		○
		2	37	i/o	Compu Selector In/ TUNER		○
		3	38	i/o	Compu Selector In/ Set Select Out TAPE		○
o	ϕ Out/x2		1	o			
i	EVENT/x2		40	i			
i	INT 1		22	i	S In	○	

•Function of each port

A. P_4 Port: Active "L"

a) When signal is input from remote controller, this port supply select signal for proper set.
In case of phono, $P_{4\text{-}0}$ port signal is it's start/stop control signal.

b) Signal of input selector ... Signal from tact sw. or set for source.
- •When depress any sw. at the same time, signal which remains at the last receive.
- •Manage time for chattering = 25mS.
- •When this port receive signal from remote controller, refuse signal from tact sw. and set for source. (1st Date)

B. P_5 port: 4 bit date bus, for DECK, TUNER and CD.

This port supply date which correspond with input date.

C. P_2 port: Control signal which is input selector for amplifier Out, Indicator Drive

Change bit of position which correspond with input date from "H" level to "L" leve.

D. $P_{7\text{-}0}$: Power On/Off

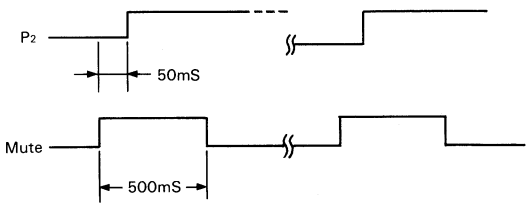
This terminal supply "H" voltage level at power on condition and "L" voltage level at power off condition.

E. INT 1: S Input

- •When this terminal changed from "L" voltage level to "H" voltage level (_┌‾), mute signal terminal ($P_{7\text{-}2}$) supply "H" voltag level, beep terminal ($P_{3\text{-}3}$) supply on signal continually and forbid all input function.
  And power on/off terminal ($P_{7\text{-}0}$) change "L" voltage level.
- •No release from this condition till power on again.

F. $P_{7\text{-}2}$: Mute Out

- •When mode of power on/off or selector out (P_2 port) are changed, and remote control terminal ($P_{6\text{-}0}$, $P_{6\text{-}1}$) or P_4 port is inputted signal, this terminal supply the signal.
- •Even, it is inputted signal of same mode, not supply.



G. $P_{3\text{-}3}$: Beep Out

- •When remote control terminal and P_4 port is inputted signal, this terminal supply the signal for 50mS. (Even, this terminal is inputted the signal of same mode, it supply.)
- •f = 1 ~ 2kHz

H. P_1 Port: Rec Selector Input

- •This terminal input signal in order to recognize rec selector position.
- •When depress phono sw. and tape sw. at the same time, this terminal change for inputting function for power on/off.

I. $P_{7\text{-}3}$: Serial send REQ.

When it supply the serial date, this is it's request signal.

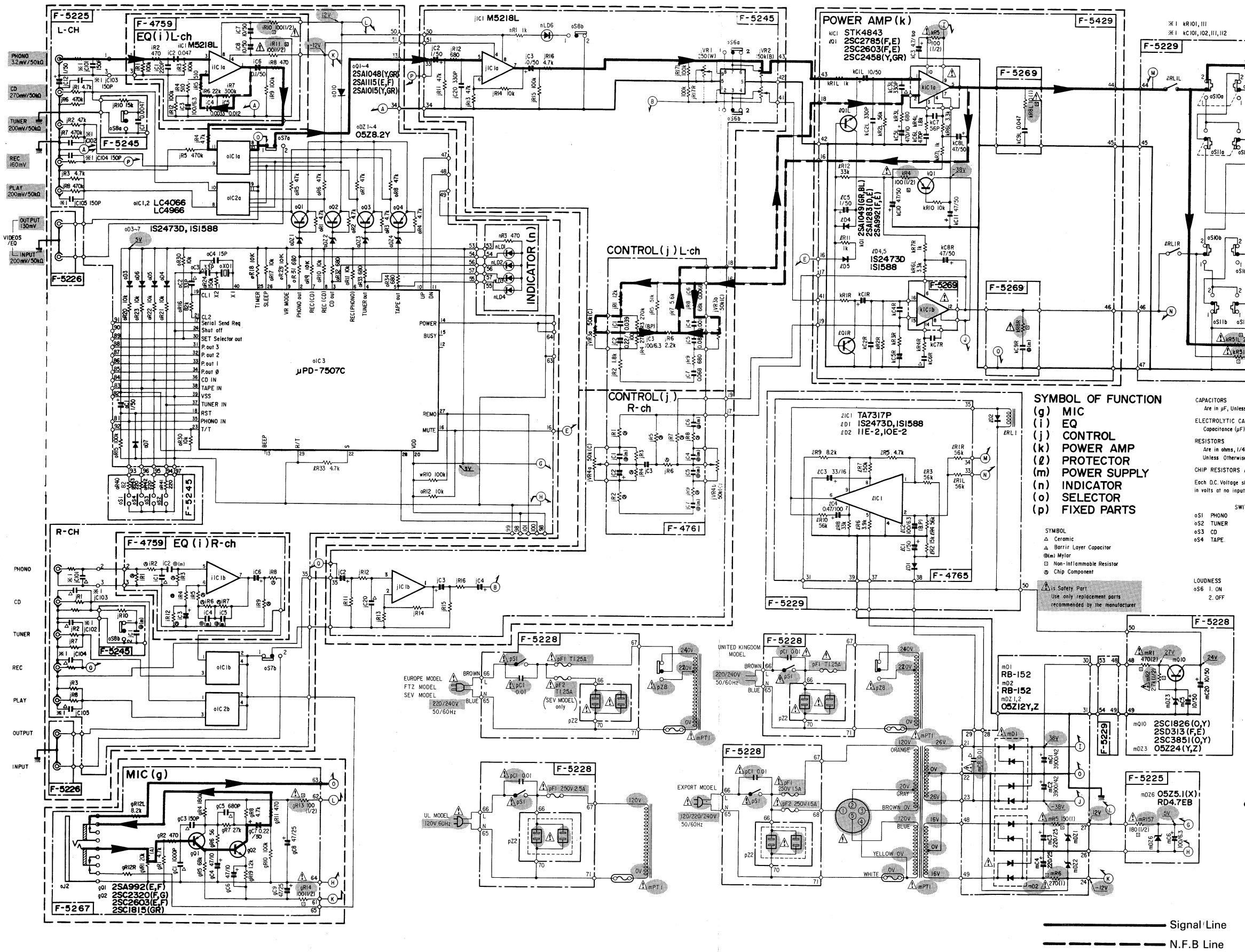
J. $P_{6\text{-}3}$: Compu. Sel./Set Select Out

This terminal is I/O terminal that it is compu-sel. input and set-select out for tuner.

A	B	C	D	E	F	G	H

6. SCHEMATIC DIAGRAM

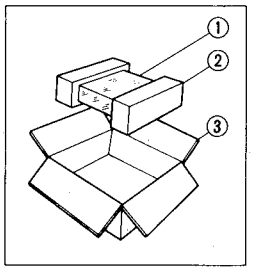
* Design and specifications subject to change without notice for improvement.
* La présention et les spécifications sont susceptibles d'être modifiées sans préavis par suites d'améliorations éventuelles.
* Änderungen, die dem technischen Fortschritt dienen, bleiben vorbehalten.



1	2	3	4	5

7. PACKING LIST

Parts No.	Stock No.	Description
1	47859900	Vinyl Cover
2	27056600	Styrofoam Packing
3	27164100	Carton Case



8. ACCESSORY LIST

	Stock No.	Description
	46996500	Operating Instruction (*E·F·S)
	46996600	Operating Instruction (*G·I·Sw)

***Note:**
E·F·S: **E**nglish·**F**rench and **S**panish Version
G·I·Sw: **G**erman·**I**talian and **Sw**edish Version